# BULLETIN

## OF THE INSTITUTE OF METALS

VOLUME 5 AUGUST 1961 PART 24

## INSTITUTE NEWS

### Council Dinner to Lieut.-Colonel S. C. Guillan on his Retirement

A dinner to mark the retirement, at the end of 50 years' service with the Institute, of Lieut.-Colonel S. C. Guillan, the Institute's former Secretary, was given by the Council at the Savoy Hotel, London, on Monday, 26 June 1961. The President (Professor H. O'Neill) was in the Chair and 27 persons were present, including a number of Past Presidents.

In the course of the evening a presentation was made by the President to Colonel Guillan on behalf of the Council, in recognition of his long service, and he was also handed a cheque representing a tribute from the general membership of the Institute.

The announcement of Colonel Guillan's impending retirement in the December 1960 issue of the *Bulletin* had resulted in many generous contributions being received from members in all parts of the world. A tribute from the Société Française de Métallurgie, of which Colonel Guillan is an Honorary Member, was read at the dinner.

### Autumn Meeting, Brussels, 18–23 September

All members resident in Europe should by now have received a copy of the Autumn Meeting Programme. Members in other parts of the World who wish to attend the meeting may obtain a copy by applying to the Secretary.

### Tyne Wear Metallurgical Association

The Tyne Wear Metallurgical Association has become an Associated Society of the Institute of Metals. In consequence members of the Institute will be entitled to attend meetings of the Association without the payment of an additional subscription. The meetings of the Association will in future be included in the programme booklet issued each autumn to members of the Institute.

The President of the Association is Dr. R. N. Parkins and the Honorary Secretary is J. K. O'Hanlon, c/o C. A. Parsons and Co., Ltd., Nuclear Research Centre, Newcastle-upon-Tyne 6. Meetings are usually held in the Metallurgy Department, King's College, Newcastle-upon-Tyne 1.

## PERSONAL NOTES

Mr. W. J. Allday has left the University of British Columbia and is now at Aluminium Laboratories Limited, Kingston, Ont.

Dr. B. B. Argent, of the Department of Metallurgy at Sheffield University, is spending the next academic session as visiting Assistant Professor in the Department of Mineral Technology, University of California.

The Right Hon. Lord Baillieu has been awarded the Gold Medal of the Institution of Mining and Metallurgy for 1960, in recognition of his distinguished services to the Commonwealth mining and metallurgical industries.

Mr. G. R. Bensa has taken up a post with Steel, Peech and Tozer, Ltd., Rotherham.

Mr. R. Boler has been appointed Chief Metallurgist of Blackburn Aircraft, Ltd., and Blackburn Engines, Ltd., Brough, E. Yorks.

Mr. G. Brinson, who has been working at the University of Sheffield, is shortly returning to Australia to take up a post in the Department of Metallurgy of the University of New South Wales.

Mr. H. R. Brooker has been appointed a Joint Managing Director of Johnson, Matthey and Co., Ltd. He has hitherto been General Sales Manager and will continue to be principally responsible for all sales divisions of the Company.

Mr. A. B. Carter is now with The British Oxygen Co., Ltd., Engineering Division, Edmonton.

Sir John Cockcroft, Master-designate of Churchill College, Cambridge, has been appointed Chancellor of the Australian National University, Canberra.

Dr. Maurice Cook has had conferred on him by the City and Guilds of London Institute a Special Insignia Award in Technology for outstanding services to the chemical and metallurgical industries.

Mr. D. M. Cottingham is now at the Research Laboratories of Tube Investments, Ltd., Hinxton Hall, Cambridge.

Mr. R. A. Day has left Blackburn Aircraft, Ltd., to take up an appointment as Chief Metallurgist to Wellworthy, Ltd., Lymington, Hants.

Mr. F. Dickinson has been elected a Vice-President of the Institution of Metallurgists.

Mr. G. T. Harris has been appointed Assistant Managing Director of Jessop-Saville, Ltd., Sheffield.

Dr. T. P. Hoar, of the Department of Metallurgy, Cambridge University, is to lecture on the corrosion of metals at the University of Chile's Postgraduate Engineering Winter School in Santiago. During his stay in Chile from 19 August to 22 September, Dr. Hoar will also make advisory visits to industrial plants and laboratories.

Mr. E. J. L. Howard has retired from his position as Chief Metallurgist to Mather and Platt, Ltd., Manchester, and is now practising as a Consulting Metallurgist.

Mr. A. G. Hughes is now with Aluminium Ibérico S.A., Alicante, Spain.

Mr. D. G. Hughes has left the Atomic Weapons Research Establishment and is now a research metallurgist with The Glacier Metal Co., Ltd., Alperton.

Dr. T. L. Johnson has joined the Metallurgy Department in the Scientific Laboratory of the Ford Motor Company, Dearborn, Mich. He was formerly with the Honeywell Research Centre at Hopkins, Minn., and was also an Associate Professor in the Department of Metallurgy, University of Minnesota.

Mr. K. Long has left the Canadian British Aluminium Co., Ltd., Baie Comeau, P.Q., to take up an appointment in the United Kingdom with The British Aluminium Co., Ltd.

Professor R. Myers, Head of the School of Metallurgy in the University of New South Wales, Sydney, has been appointed Pro-Vice-Chancellor of the University.

Dr. L. Northcott, Principal Superintendent, Materials and Explosives Division, Armament Research and Development Establishment, was awarded the C.B.E. in the Birthday Honours List.

Sir Ronald Prain has been appointed Chairman of the Commonwealth Council of Mining and Metallurgical Institutions.

Mr. C. S. Rajan is now Production Engineer in the Rolling Mill Section of the Ordnance Factory at Ambarnath, India.

Dr. M. A. Scheil, Director of Metallurgical Research, A. O. Smith Corp., Milwaukee, was recently recognized by the University of Wisconsin in a citation that referred to his outstanding accomplishments as engineer, author, and administrator, who had significantly advanced the profession of metallurgical engineering.

Mr. S. S. Smith has been elected a Member of Council of the Institution of Metallurgists.

Mr. K. U. Snowden has been appointed Visiting Research Associate at the Franklin Institute, Philadelphia, Pa.

Dr. E. G. West has been elected Senior Vice-President of the Institution of Metallurgists.

Mr. J. M. Wheatley has been awarded the degrees of M.A. and D.Phil. of the University of Cambridge.

Mr. T. B. Wilson has left C. A. Parsons and Co., Ltd., and is now Senior Metallographer with Atomic Power Constructions, Ltd., Hounslow.

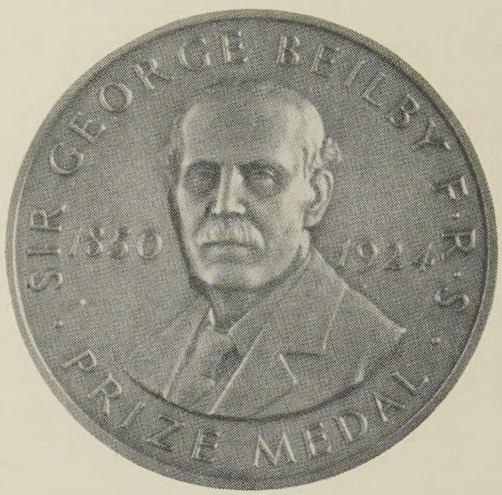
Dr. J. C. Wright has been elected a Member of Council of the Institution of Metallurgists.

# JOINT ACTIVITIES

## The Beilby Medal and Prize 1961

Beilby Medals and Prizes have recently been awarded to:
Dr. C. Edeleanu (Tube Investments Research Laboratories).
Professor J. Nutting (University of Leeds).

Since 1930, at intervals of one or more years, awards have been made by the Administrators of the Sir George Beilby Memorial Fund, representing the Royal Institute of Chemistry, the Society of Chemical Industry, and the Institute of Metals. Sir George Beilby had been President of each of these three bodies, and they jointly sponsored the appeal for subscriptions whereby the Fund was raised as a memorial to him after his death in 1925.




The awards are made to British investigators in science in recognition of independent original work of exceptional merit, carried out continuously over a period of years and involving the development and application of scientific principles in any field related to the special interests of Sir George Beilby, i.e. in chemical engineering, fuel technology, or metallurgy, in their modern interpretations. The awards are intended as an encouragement to younger men and women (preferably under the age of 40) who have done distinguished work of practical significance in any of these fields.

The Administrators have recently decided that henceforth each award shall consist of a gold medal as well as a substantial sum of money, and shall be known as "The Beilby Medal and Prize" and specified as being "for advancement in science and practice". Such an award will in future be offered at intervals of two years, but more than one may be made on the same occasion if there are several candidates of sufficiently outstanding merit.

### Dr. C. Edeleanu

Constantine Edeleanu was born in Rumania in 1922, and came to Britain to finish his education in 1938. He went to Cambridge in 1941 to read for the Natural Sciences Tripos. After a short period in the Army (1943–45), he returned to Cambridge and read Part II Chemistry.

In 1946 he began research work under the supervision of Dr. U. R. Evans and was awarded the Ph.D. degree in 1950.

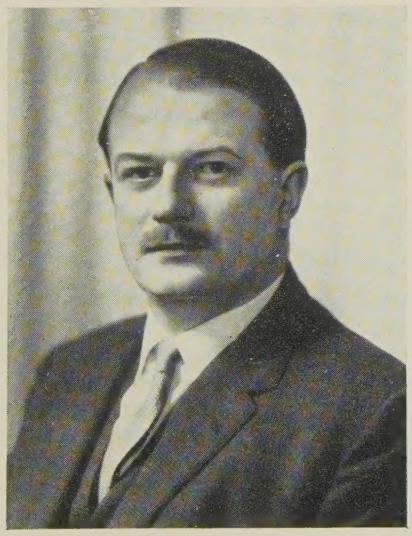
He then went to the Brown-Firth Research Laboratory, Sheffield, where he was mainly concerned with long-term research on alloy development, stress-corrosion, and certain

problems arising from developments in nuclear engineering. In 1956 he joined the Tube Investments Research Laboratories at Hinxton Hall, near Cambridge, where he started a corrosion section which is concerned with both long-term and some short-term problems.

Dr. Edeleanu has published numerous papers on various aspects of corrosion.

### Professor J. Nutting

Jack Nutting was born in 1924 and educated at the Grammar School, Mirfield, Yorks, and the University of Leeds, where he was awarded the B.Sc. degree with First Class Honours in Metallurgy in 1945. From 1945 to 1948 he worked as a research student under the supervision of the late Professor A. Preece, and obtained the degree of Ph.D. in 1948 for a dissertation upon " The Overheating and Burning of Steel ".



In the same year he joined the British Iron and Steel Research Association as a Scientific Officer and was seconded to the Cavendish Laboratory, Cambridge, where he worked under the supervision of Dr. V. E. Cosslett and Dr. E. Orowan developing techniques for the electron microscopy of metals.

In 1949 he was appointed Demonstrator in Metallurgy in the University of Cambridge and was subsequently promoted to Lecturer in 1954. He held this post until a few months ago, when he was appointed to the Chair of Metallurgy in The Houldsworth School of Applied Science in the University of Leeds.

Since 1948 Professor Nutting's chief scientific interest has been in the application of the electron microscope to the study of metals. The ultimate aim of these researches is to obtain detailed quantitative information on the relationship between the microstructure and mechanical properties of metals and alloys. During the last few years, as a result of the development of thin-foil techniques for the examination of metals by transmission in the electron microscope, rapid advances have been made in the study of phase changes and dislocation interactions, and Professor Nutting, together with a number of research students, has published a series of papers on these subjects.

## POWDER METALLURGY JOINT GROUP

### Winter 1961 Meeting

The principal subject for discussion at the Winter 1961 meeting of the Powder Metallurgy Joint Group will be " Sintered High-Temperature Compounds ". This discussion, which will take place on Friday, 8 December, will be based on a number of specially invited papers which will be published in November in *Powder Metallurgy* No. 8.

On the preceding afternoon a discussion will be held on a series of papers that have already appeared in *Powder Metallurgy*. There will be an informal dinner at Imperial College on the same evening (7 December).

## NEWS OF LOCAL SECTIONS AND ASSOCIATED SOCIETIES

### Local Section Officers and Committees for 1961–62

#### Birmingham Local Section

*Chairman:* I. G. Slater, Ph.D., M.Sc., C.I.Mech.E., F.I.M.
*Vice-Chairman and Representative on Co-ordinating Committee:* vacant.
*Honorary Secretary:* L. G. Tottle, A.I.M.
*Honorary Assistant Secretary:* L. H. Fairbank, B.Sc., A.I.M.
*Honorary Treasurer:* R. Chadwick, M.A., F.R.I.C., F.I.M.
*Past Chairmen:* H. W. G. Hignett, B.Sc., F.R.I.C., F.I.M.; C. E. Homer, Ph.D., B.Sc., F.I.M.; A. W. Matthews, A.I.M.
*Ordinary Members:* L. G. Beresford, B.Sc., F.I.M.; H. J. Miller, M.Sc., F.I.M.; N. Swindells, Ph.D., B.Sc., F.I.M.; A. D. McQuillan, Ph.D., B.Sc., F.I.M.; E. J. Bradbury, M.Eng., A.M.I.Mech.E., F.I.M.; F. G. Haynes, M.Eng., A.I.M.

### London Local Section

*Chairman:* E. G. V. Newman, O.B.E., B.Sc., A.R.S.M., F.R.I.C., F.I.M.
*Vice-Chairman:* W. K. B. Marshall, B.Eng., A.I.M.
*Honorary Secretary:* J. R. Knight, B.Sc., A.I.M.
*Honorary Treasurer:* J. A. Catterall, Ph.D., B.Sc., A.R.S.M., A.I.M.
*Past Chairmen:* R. G. Harper, M.Sc.; E. C. Rhodes, Ph.D., B.Sc., F.R.I.C., F.I.M.; J. C. Chaston, Ph.D., B.Sc., A.R.S.M., A.Inst.P., F.I.M.
*Ordinary Members:* R. Eborall, M.A.; J. E. Hughes, Ph.D., B.Sc., A.R.S.M.; Ivor Jenkins, D.Sc., F.I.M.; D. C. F. Lunn, A.I.M.; W. I. Pumphrey, Ph.D., D.Sc., F.R.S.A., F.I.M.; D. A. Robins, Ph.D., B.Sc., A.I.M.

### Oxford Local Section

*Chairman:* J. W. Christian, M.A., D.Phil.
*Vice-Chairmen:* Professor W. Hume-Rothery, O.B.E., D.Sc., F.R.S.; A. E. W. Smith, B.Sc., Ph.D.
*Honorary Secretary:* J. W. Martin, M.A., Ph.D.
*Honorary Treasurer:* R. Pearce, B.A., B.Sc.
*Past Chairmen:* R. T. Parker, B.Sc., Ph.D., A.R.S.M., F.R.I.C., F.I.M; G. L. Hopkin, O.B.E., B.Sc., F.I.M.; G. A. Geach, M.Sc., Ph.D., F.I.M.
*Ordinary Members:* R. S. Barnes, B.Sc.; P. Buckman; W. F. Dabbs, B.Sc., L.I.M; A. R. Harding, B.Sc., Ph.D., A.I.M.; R. J. Wakelin, B.Sc., Ph.D., A.Inst.P.; D. C. Finch, B.Sc.(Met.), A.I.M.; P. J. Bowles, B.Sc., Ph.D., L.I.M.; D. Humphreys, B.Sc., A.R.S.M.
*Representing Associate Members:* R. McLester; A. Moore, Ph.D.

### Scottish Local Section

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*Vice-Chairman:* A. L. Wakeling, A.I.M.
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*Ordinary Members:* Professor E. C. Ellwood, Ph.D., B.Sc., F.I.M.; P. G. Forrester, M.Sc., F.I.M.; J. E. Ewen; E. G. Flack; L. Powell, B.Sc., A.I.M.
*Representing Associates:* E. Buttress; W. Bedford.

### Sheffield Local Section

*Chairman:* A. R. Entwisle, M.A., Ph.D.
*Vice-Chairman:* B. B. Argent, B.Met., Ph.D.
*Honorary Secretary:* W. J. McG. Tegart, M.Sc., Ph.D.
*Honorary Treasurer:* B. J. Piearcey, B.Sc., M.Met., Ph.D., A.I.M.
*Past Chairmen:* Professor R. W. K. Honeycombe, Ph.D., D.Sc., F.I.M.; W. R. Maddocks, Ph.D., B.Sc.; K. W. Andrews, D.Sc., D.Phil., F.Inst.P., F.I.M.
*Ordinary Members:* J. Clayton-Cave; H. R. Lovell; A. J. MacDougall, M.Met., A.R.I.C., F.I.M.; F. Orme, T.D., M.Met., A.R.I.C., F.I.M.; H. Ormerod, M.Met.; G. Parkin, A.Met., F.R.I.C., F.I.M.

### South Wales Local Section

*Chairman:* J. P. Dennison, Ph.D., B.Sc.
*Honorary Secretary:* P. W. Davies, Ph.D., B.Sc.
*Honorary Treasurer:* R. T. Staples.
*Past-Chairman:* C. F. J. Francis-Carter, O.B.E., F.R.I.C., F.I.M.
*Representing Ordinary Members:* R. C. Bernhoeft, B.Sc.; R. T. Thorley, B.Sc., A.I.M.; D. W. Hopkins, M.Sc., F.I.M.; R. D. Garwood, M.Sc.; J. Harris, M.Sc., F.I.M.; C. J. Teague, B.Sc.; A. P. Greenough, M.A., A.I.M.
*Representing Associate Member:* C. K. Jones.
*Representing Student Member:* J. Bailey, B.Sc.

# LOCAL SECTION LECTURE

## Novel Methods of Forming Metals

At a meeting of the Oxford Local Section held on 7 March 1961, Dr. J. F. WALLACE (University of Sheffield) described "Novel Methods of Forming Metals".

He said that the development of ultra-high speed aircraft was demanding the use of stainless and titanium alloys with high yield : ultimate strength ratios. Difficulties were experienced in stretch-forming these by conventional methods, and the ice-lubrication technique had been developed to reduce friction between the work and the form block. The phase-change principle of this technique might have applications in other fields of metal forming, such as the use of pure metals or eutectics for lubrication at high temperatures.

In deep drawing it had long been the practice to polish all the tool faces very highly and to apply a good lubricant on both faces of the blank or previous-stage draw. Recent developments had shown that roughening the punch, by methods such as knurling, coarse machining, or shot blasting, did in fact lead to increased drawing capacity or to a reduction of thinning in critical regions.

Many of the fundamentals of explosive forming and hydraulic forming were already well known, but there was currently some dispute as to the application of these to the practical techniques. One particular point was that the rate of strain in explosive forming was dependent on the magnitude and energy of the pressure wave and not on the velocity of the wave front or shock.

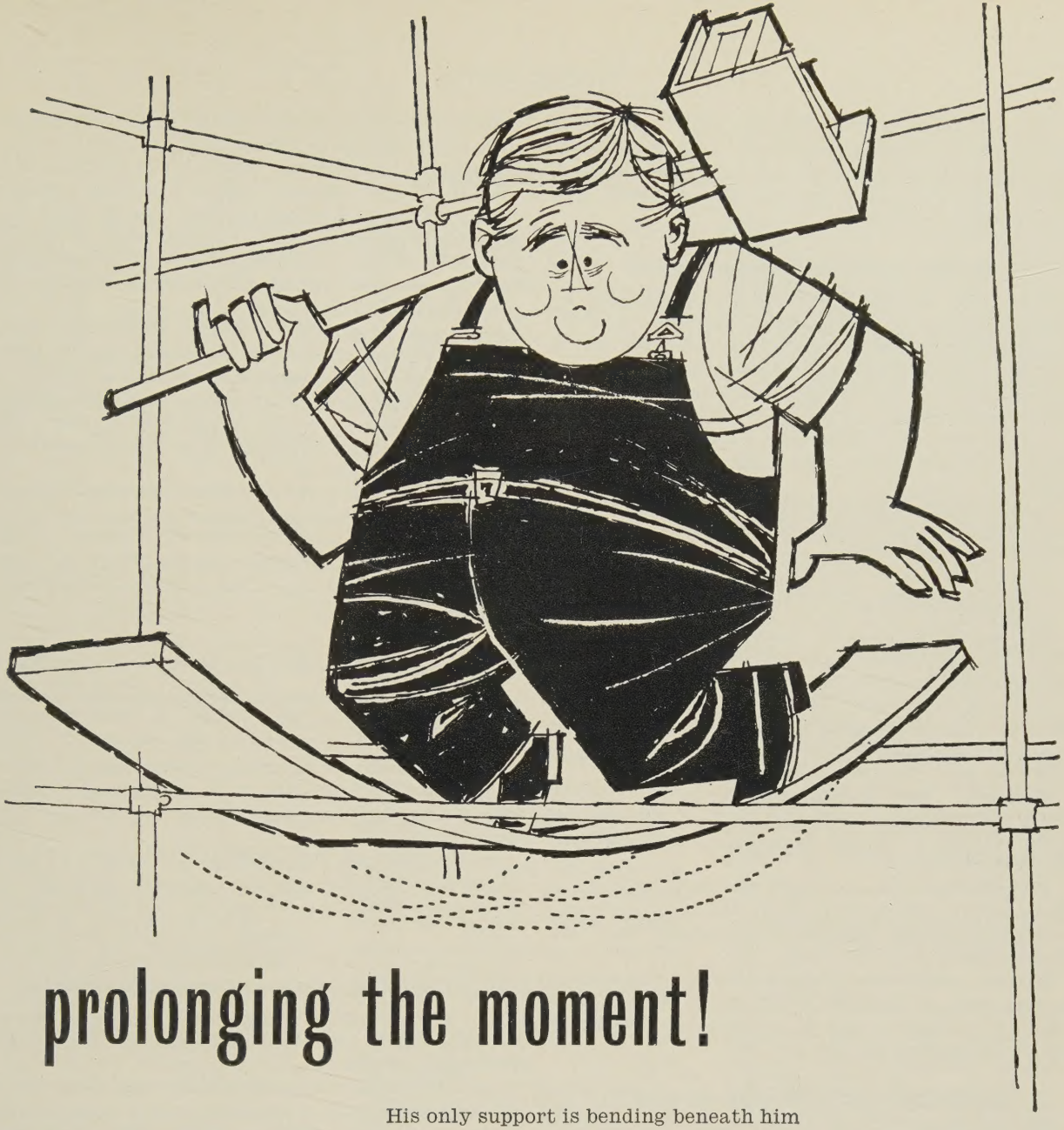
Cold extrusion and forging and hot extrusion by the Sejournet process were being developed rapidly, and recent theoretical studies had illuminated some of the effects of tool geometry and lubrication. The optimum extrusion die angle was shown to be a function of the reduction imposed on lubrication. With high reductions and short billets, a lubricant had little effect on the loads required, and greater economy might be obtained by utilizing the collection of the surface of the billet in a dead-metal zone as a self-scarfing operation.

# OTHER NEWS

## "International Science and Technology"

A new monthly periodical, *International Science and Technology*, is shortly to be published. It will be sent, free of charge, to scientists and engineers primarily engaged in research, development, and advanced engineering.

*International Science and Technology* is a new type of technical magazine edited for scientists who need information outside their own special field. The aim of the editors will be to cover the whole range of science and engineering as applied to industry.



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The first issue will be dispatched in August and regular monthly issues will start in January 1962. Members interested in receiving copies should write to the Circulation Manager, Conover-Mast Publications, Inc., 205 East 42nd Street, New York 17, N.Y., U.S.A.

### Eighth Corrosion Summer School

The eighth Corrosion Summer School, organized by Battersea College of Technology in association with the Corrosion Group of the Society of Chemical Industry, will be held on 25–28 September 1961. The subject will be " Corrosion Problems in the Electrical Power Industry ", and eight lectures by experts will be given. It is also hoped to pay a visit to the Central Electricity Research Laboratories, Leatherhead, on Thursday, 28 September. The fee for the course is £10.

Enrolment forms and further information may be obtained from the Secretary (Metallurgy Courses), Battersea College of Technology, London, S.W.11.

### Special Courses at Borough Polytechnic

The following special lecture courses have been arranged by the Division of Metal Science of Borough Polytechnic, Borough Road, London, S.E.1.

*Modern Developments in Non-Destructive Testing of Metals.*—A course of six lectures, given by specialists from industry on consecutive Wednesday evenings at 7.00 p.m., beginning on 4 October 1961. Fee for the course 10*s*.

*Refractories : Their Manufacture, Properties, and Uses.*—A course of ten lectures, given by L. R. BARRETT on consecutive Friday evenings at 7.00 p.m., beginning on 6 October 1961. Fee for the course £1.

*Recent Advances in Semi-Conductor Metallurgy.*—A course of six lectures, given by A. S. ABRAHAMS on consecutive Tuesday evenings at 7.00 p.m. beginning on 24 October 1961. Fee for the course £1.

*Corrosion and Protection of Buried Metal.*—A course of six lectures, given by specialists from industry on consecutive Thursday evenings at 7.00 p.m., beginning on 2 November 1961. Fee for the course 10*s*.

### Conference on " Hydrogen in Steel "

The Metallurgy Division of the British Iron and Steel Research Association announces a Conference on " Hydrogen in Steel " to be held at Harrogate from 11 to 13 October next. The specific aspects of the problem to be discussed include: (1) Removal of hydrogen from liquid and solid steel; (2) the diffusion and solubility of hydrogen in steel; (3) the effect of hydrogen on the properties of ultra-high-tensile steels; and (4) hydrogen in weld metal.

Full details and application forms will be available from 14 August, when applications should be made to the Technical Secretary, Metallurgy Division, BISRA, 11 Park Lane, London, W.1.

### IFAC Congress 1963

The second congress of the International Federation of Automatic Control (IFAC) will be held in Basle, Switzerland, in September, 1963, at the invitation of the Swiss Association for Automatic Control. A committee of the British Conference on Automation and Computation will co-ordinate the submission of papers from the United Kingdom to the congress.

Most of the papers will deal with the theory or application of automatic control; a number will deal with the components of control devices. Subjects to be covered are as follows: *Theory:* discrete systems; stochastic systems; optimal systems; learning systems; systems reliability. *Applications:* process dynamics; computer studies of applications, on or off line; optimizing or adaptive control applications. *Components:* new and effective devices; measurement of the reliability of components.

Papers may be submitted in English, Russian, French, or German. The final version of any paper by a United Kingdom author should be in the hands of the BCAC committee not later than 1 June, 1962, for transmission to the International Selection Committee of IFAC during August, 1962. The Executive Council of IFAC have ruled that the number of papers shall not exceed 100.

Offers of papers from the United Kingdom should be made to the Honorary Secretary, BCAC, c/o The Institution of Electrical Engineers, Savoy Place, W.C.2. General enquiries concerning the congress arrangements should be made to the Secretary of IFAC, Dr.-Ing. G. Ruppel, Prinz-Georg-Strasse, 79, Düsseldorf, Germany.

### International Conference on Stress Analysis

The Second International Conference on Stress Analysis will be held on 10–14 April 1962 at the Ecole Supérieur d'Aéronautiques, Boulevard Victor, Paris 15e.

Registration forms to attend the conference will be available in due course on application to the Secretary of the Joint British Committee for Stress Analysis, 1 Birdcage Walk, London, S.W.1.

Contributions will deal mainly with the results of experimental work, and there will be no subsequent publication of the complete texts. It is not intended to invite any review papers.

### Panamerican Course in Nuclear Metallurgy

The Argentine Atomic Energy Commission is arranging, in collaboration with the Interamerican Nuclear Energy Committee, the first Panamerican Course in Nuclear Metallurgy. The course, which will be held in the laboratories of the Argentine A.E.C., at Buenos Aires, is designed to train nuclear metallurgists. The course will consist of two parts, running from March to July and July to December 1962. It will be limited to 14 graduates, all of whom must be citizens of one or other of the American republics. Fellowships will be available.

Information about the course may be obtained from Dr. J. A. Sábato, Comisión Nacional de Energia Atómica, Avenida Libertador General San Martin 8250, Buenos Aires, Argentina.


## APPOINTMENT VACANT

**SENIOR EXECUTIVE** wanted for the Technical and Commercial control of a large Non-Ferrous Metals Foundry in India producing a full range of non-ferrous alloys, castings, and machine components. The applicant should have business and administrative ability with a background of metallurgical and machine-shop experience. A salary commensurate with the responsibility will be offered to the right man.

All applications will be treated in the strictest confidence. Reply in first instance to Box No. 463, The Institute of Metals, 17 Belgrave Square, London, S.W.1.

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**Barrett, Philip Leonard.** Elected member, 93.
**Bartle, Michael John.** Elected student member, 130.
**Bauer, Alfred F.** Elected member, 129.
**Baugh, Fred.** Death of, 119.
**Baynes, Alan David.** Elected member, 22.
**Beckwith, David John.** Elected junior member, 33.
**Beissel, Frank Eric.** Elected member, 22.
**Bell, George Howard.** Elected student member, 111.
**Bennett, John A.** Elected member, 142.
**Benson, L. E.** Lectures on "**Metallurgical Factors Associated with the Failure of Engineering Structures**" (summary), 73, "**Metallurgy of the Steam Turbine**" (summary), 184.
**Berghezan, A.** *See* Fourdeux, A.
**Bernard, David.** Elected member, 98.
**Bernard, Jean Louis.** Elected member, 22.
**Bernhoeft, C. P.** Death of, 24.
**Bernstein, Leonard.** Elected member, 32.
**Berry, Robert.** Elected member, 111.
**Bertrand, Henri Marie Clair.** Elected member, 85.
**Betteridge, W.** Lecture on "**Properties, Applications, and Metallurgical Aspects of Nimonic Alloys**" (summary), 27.
**Bhargara, Ram Dev.** Elected member, 111.
**Bhattacharjee, Ajit Kumar.** Elected junior member, 130.
**Bianco, Giacomo.** Elected member, 142.
**Bickerdike, Michael.** Elected student member, 55.
**Bickley, Alan Geoffrey.** Elected member, 98.
**Biddle, William Francis.** Elected member, 130.
**Biek, L.** Lecture on "**Metals in Antiquity**" (summary), 72.
**Birbeck, Jeremy Clive Hallen.** Elected student member, 118.
**Birchon, David.** Elected member, 118.
**Bird, John.** Elected junior member, 118.
**Bird, Thomas Lewis.** Elected junior member, 22.
**Bjeletich, John George.** Elected student member, 33.
**Blair, Alex Charles.** Elected member, 118.
**Blake, Paul Desmond.** Elected member, 93.
**Blenkinsop, Paul Addyman.** Elected student member, 130.
**Bock, Keith R.** Elected member, 111.
**Bolton, Kenneth.** Elected student member, 86.
**Bolton, W. L.** Lecture: on "**Aluminium Casting Alloys and Foundry Practice**" (summary), 27.
**Bonar, Lucian George.** Elected junior member, 22.
**Bond-Williams, N. I.** Elected Member of Council, 149; biographical notes, 159.
**Boniszewski, Tadeusz.** Elected member, 32.
**Bonner, Peter Edward.** Elected junior member, 23.
**Boulton, Henry Augustine Barrett.** Elected member, 111.
**Bourne, David Richard.** Elected junior member, 14.
**Bournez, Lucien Robert.** Elected member, 48.
**Bowden, Piers Brim.** Elected student member, 33.
**Bowen, David Keith.** Elected student member, 142.
**Braithwaite, Eric Reeves.** Elected member, 111.
**Bramfitt, Bruce Livingstone.** Elected student member, 166.
**Brandt, David Julius Oscar.** Death of, 24.
**Breekveldt, Gysbert Jo.** Elected member, 15.
**Breese, Paul.** Elected junior member, 33.
**Brennon, Bruce E.** Elected member, 111.
**Bridges, John Maurice.** Elected student member, 15.
**Brown, R. J.** Lecture on: "**Metallurgical Problems in the Motor Industry**" (summary), 144.
**Brown, Reginald Smith.** Elected member, 93.
**Brown, John William Greenhough.** Elected student member, 33.
**Brown, Terence Michael.** Elected member, 22.
**Brunner, Hans.** Elected member, 118.
**Bryson, Neil Burton.** Elected member, 142.
**Bullock, Hemenway R.** Elected member, 1.
**Buob, Karl Heinz.** Elected member, 118.
**Burghoff, Henry Lewis.** Elected member, 179.
**Bushnell, Gordon.** Elected student member, 23.
**Butcher, William Thomas.** Death of, 10.
**Butrymowicz, Daniel Bernard.** Elected student member, 180.
**Butterworth, David.** Elected student member, 23.
**Byrne, William Ralph.** Elected student member, 86.

**Caisley, John.** Elected student member, 130.
**Campbell, John Keith Rennie.** Elected student member, 142.
**Carapella, Sam Charles, Jr.** Elected member, 111.
**Carpenter, Frederick Donald.** Elected member, 179.
**Cartwright, W. F.** Lecture on "**Economics of Rolling-Mill Layouts**" (summary), 26.
**Caspersson, Stig C. O.** Elected member, 111.
**Catterall, J. A.** Lecture on "**Electron Theory of Metals**" (summary), 185.
**Cavanagh, Raymond Leigh.** Elected member, 67.
**Cave, Donald Henry.** Elected student member, 33.
**Chamberlain, Willard Thomas.** Elected member, 129.
**Champion, Albert Frederick.** Elected student member, 15.
**Chastell, Derek John.** Elected student member, 130.
**Chevenard, Pierre.** Obituary notice, 119.
**Chew Kong Seng.** Elected student member, 118.
**Christiansen, Herluf.** Elected member, 111.
**Chu, Gordon P. K.** Elected student member, 166.
**Cibula, A.** Contribution to: "**Symposium on Solidification**" (summary), 134.
**Clark, Andrew John.** Elected member, 22.
**Clark, John Owen Edward.** Elected member, 130.
**Clarke, John Frank Jerome.** Elected student member, 23.
**Clifton, Peter Vincent.** Elected member, 14.
**Cole, David.** Elected student member, 15.
**Cole, John.** Elected member, 85.
**Coleman, Christopher Edward.** Elected student member, 166.
**Collard, John Cedric.** Elected member, 48.
**Collier, Fred Owen.** Elected member, 22.
**Collinson, John William.** Elected member, 179.
**Connell, Wilfred.** Elected student member, 111.
**Connelly, Bernard William.** Elected junior member, 15.
**Cook, Maurice, and E. Swainson.** Awarded W. H. A. Robertson medal (1959), 47.
**Cooke, Constan John.** Elected student member, 130.
**Cooper, Lloyd Ryder.** Elected member, 14.
**Cooper, Thomas William.** Elected student member, 118.
**Cooper, William Charles.** Elected member, 118.
**Corbett, Reginald.** Death of, 100.
**Cornelius, Charles Taylor.** Elected member, 32.
**Costley, William Arnold.** Elected member, 86.
**Cottingham, David Michael.** Elected junior member, 23.
**Cotton, J. B.** Lecture on "**Corrosion Studies in Titanium**" (summary), 43.
**Cottrell, A. H.** Letter to the Editor: "**What Should the Institute Publish?**", 144; elected Member of Council, 149; biographical notes, 159.
**Couch, William H.** Elected member, 118.
**Cox, Edwin III.** Elected member, 179.
**Cox, Frederick Glynn.** Elected member, 32.
**Cransberg, Rolf.** Elected member, 118.
**Crompton, John Michael Gaven.** Elected junior member, 118.
**Crookes, Alan Frank.** Elected student member, 1.

**Cucchini, Eugenio.** Elected member, 142.
**Cundill, Robert Thomas.** Elected student member, 99.
**Curbishley, George.** Elected junior member, 111.
**Cutler, David Arthur James.** Elected student member, 23.
**Czikel, Josef.** Elected member, 130.
**Czoch, Kazimierz Zygmunt.** Elected student member, 130.

**Dahlstrom, Roy.** Elected member, 142.
**Daniel, William Whitmore.** Elected student member, 33.
**Dannatt, Cecil William.** Death of, 181; obituary notice, 189.
**Darby, Graham.** Elected member, 67.
**Das, Anil Kumar.** Elected junior member, 158.
**Davies, Hywel Aled.** Elected student member, 118.
**Davies, Raymond.** Elected member, 111.
**Davy, Lyndon George Thomas.** Elected junior member, 55.
**Daykin, A.** Lecture on "**Metals and the Architect**" (summary), 146.
**Deeley, Richard Montague.** Elected student member, 15.
**Demer, Louis Joseph.** Elected member, 14.
**Dennis, Peter Patrick.** Elected student member, 130.
**Dennison, J. P.** Biographical notes, 100; elected chairman of South Wales Local Section, 100.
**Desforges, Charles Desmond.** Elected student member, 99.
**Deshpande, Datta Laxman.** Death of, 189.
**Dickson, John Steele.** Elected junior member, 118.
**Dillamore, Ian Leslie.** Elected student member, 94.
**Doyle, W. M.** Lecture on "**Continuous Casting of Aluminium Alloys**" (summary), 192.
**Draysey, John Malcolm.** Elected junior member, 118.
**Drury, Harry James Hutchison.** Death of, 87.
**Duckworth, Walter Eric.** Elected member, 142.
**Dulieu, David.** Elected student member, 130.
**Dunleavy, Joseph G.** Elected member, 48.
**Dunn, Cecil Gordon.** Elected member, 32.
**Dunn, George.** Elected member, 118.
**Dunstan, Cyril William.** Elected member, 86.
**Durdaller, Cornelius Gerard.** Elected student member, 33.

**Eames, Peter John Charles.** Elected student member, 130.
**Eaton, William Harvey.** Elected member, 32.
**Edeleanu, C.** Lecture on "**Corrosion and Microstructure**" (summary), 44; awarded Beilby medal and prize, 194; biographical notes, 194.
**Edwards, Charles Alfred.** Death of, 69.
**Eldred, V. W.** Lecture on "**The Examination of Irradiated Fuel Elements**" (summary), 89.
**Elkum, Alf Kenneth.** Elected student member, 180.
**Elliwood, E. C.** Lecture on "**The Continuous Casting of Bronze**" (summary), 43.
**Endecott, Albert Ernest.** Elected member, 111.
**Ensor, Percy Richard.** Elected member, 14.
**Epner, Martin.** Elected member, 118.
**Eppinger, Edwin Vincent.** Elected student member, 166.
**Erthal, John Frederick.** Elected member, 142.
**Ettinger, G. M.** Lecture on "**Properties and Applications of Semiconductor Devices**" (summary), 82.
**Evans, (Miss) Barbara Christieny.** Elected student member, 130.
**Evans, David William.** Elected student member, 15.
**Evans, Michael Arthur.** Elected student member, 15.
**Evans, Walter.** Elected member, 55.
**Evans, William Edward.** Elected member, 166.
**Eyre, Brian Leonard.** Elected junior member, 55.

**Fabian, Derek John.** Elected member, 118.
**Falck, Henrik Gustaf.** Elected member, 179.
**Farag, Mahmoud Mohamed.** Elected student member, 158.
**Faunce, Chester A.** Elected student member, 94.
**Fegredo, Desmond Malcolm.** Elected member, 67.
**Feltham, P.** Lecture on "**Soviet Metallurgy**" (summary), 28.
**Ferguson, William Howard.** Elected student member, 180.
**Field, Bernard Duncan.** Elected member, 67.
**Finkl, Charles William.** Elected member, 22.
**Finniston, H. M.** Elected Vice-President, 22; biographical notes, 56.
**Fisher, Bernard.** Elected member, 15.
**Fisher, Henry J.** Elected member, 67.
**Fitzsimmons, Terence John.** Elected student member, 99.
**Fletcher, Alfred John.** Elected student member, 23.
**Fletcher, Gordon.** Elected student member, 166.
**Flint, Oliver.** Elected member, 1.
**Ford, Hugh.** Lecture on "**The Theory of Rolling**" (summary), 35.
**Forrester, P. G.** Lectures on "**Bearing Metals**" (summary), 36, 161.
**Foulger, Laurence John.** Elected junior member, 99.
**Fourdeux, A.,** and **A. Berghezan.** Letter to the Editor: "**Stacking Faults in Niobium**", 191.
**Foxall, Roger Arthur.** Elected student member, 118.
**Franssen, Hermann.** Elected member, 98.
**Franssen, Norbert.** Elected student member, 94.
**Fray, Derek John.** Elected student member, 15.
**Friebel, Virgil R.** Elected student member, 68.
**Fullerton-Batten, Robert Charles.** Elected student member, 142.

**Gadsby, Donald M.** Elected member, 67.
**Gagel, Harold Louis.** Elected member, 142.
**Gallagher, Noel Thomas.** Elected member, 93.
**Galvez, Matthew Joseph.** Elected member, 179.
**Gandhi, N. P.** Obituary, 105.
**Ganpule, Ashok A.** Elected student member, 130.
**Gardner, Douglas S.** Death of, 10.
**Garforth, Daniel.** Elected student member, 23.
**Gasson, D. B.** Lecture on "**Electron-Beam Melting**" (summary), 164.
**Gayton, Frederick Maurice.** Elected junior member, 180.
**Gazzard, Simon Thomas.** Elected student member, 15.
**Geach, G. A.** Biographical notes, 18; elected chairman of Oxford Local Section, 18.
**George, Alan Edward Blundell.** Elected student member, 55.
**Gibbons, Vincent J.** Elected member, 98.
**Gilbert, Harry.** Elected member, 15.
**Gilbert, John Roger Bawden.** Elected student member, 23.
**Giles, Maurice Eric.** Elected student member, 33.
**Gjersem, Knut.** Elected member, 118.
**Glanville, Douglas William.** Elected member, 55.
**Glenny, R. J. E.** Lecture on "**Thermal Shock**" (summary), 60.
**Goldberger, Erwin.** Elected student member, 15.
**Goodwyn, John Barry.** Elected junior member, 33.
**Gould, Robert.** Elected member, 111.
**de Gouyon Matignon, Jean-Xavier.** Elected member, 1.
**Granger, Douglas Arthur.** Elected student member, 15.
**Granier, Maurice.** Elected member, 179.
**Gray, Alan Ernest.** Elected member, 48.
**Gray, Allen G.** Elected member, 67.
**Gray, Paul Norman.** Elected member, 129.
**Greatwood, Peter.** Elected student member, 23.
**Grebetz, John.** Elected junior member, 142.
**Greenbank, John Carr.** Elected student member, 86.
**Gregory, E. N.** Lecture on "**Some Recent Developments in the Welding of Metals**" (summary), 161.
**Gregson, David.** Elected student member, 33.
**Grieder, Max.** Elected member, 129.
**Grossmann, Georg Karl.** Elected student member, 1.
**Grout, Joseph William.** Elected member, 158.
**Guertler, Maria.** Elected member, 55.
**Guillan, S. C.** Elected a Fellow of the Institute, 129; retirement, 167, 193.
**Guiraldenq, Pierre L.** Elected student member, 15.
**Gupta, Prem Ray.** Elected member, 14.

**Hall, Richard C.** Elected member, 118.
**Halstrøm, H. L.** Letter to the Editor: "**Tarnishing of Silver and Silver–Silicon Contacts by Hydrogen Sulphide**", 144.
**Hamer, Robert C.** Elected student member, 68.
**Hammon, Martin L.** Elected student member, 68.
**Handisyde, Paul.** Elected student member, 166.
**Hanson, Albert.** Elected member, 129.
**Harocopos, Basil.** Elected junior member, 118.
**Harris, David George.** Elected junior member, 55.
**Harris, Leslie Beran.** Elected member, 32.
**Harris, Rodney.** Elected student member, 48.
**Harris, Sydney George.** Elected member, 142.
**Harrison, Roger Philip.** Elected student member, 33.
**Harriss, Noel Richard Henry.** Elected member, 158.
**Hartley, Craig Sheridan.** Elected junior member, 142.
**Hartree, John Richard.** Elected member, 111.
**Hassall, James Oliver.** Elected student member, 33.
**Hawkins, Derek Neville.** Elected junior member, 86.
**Hay, Matthew.** Obituary notice, 3.
**Hayes, Dennis.** Elected member, 179.
**Hedebrant, Olle Sigfrid.** Elected member, 14.
**Heine, V.** Lecture on "**Electron Theory of Metals**" (summary), 171.
**Heiser, Francis Alvin.** Elected junior member, 158.
**Hendricks, Robert Wayne.** Elected student member, 33.
**Herrick, Kenneth Lee.** Elected member, 93.
**Hessenberg, W. C. F.** Letter to the Editor: "**What Should the Institute Publish?**", 191.
**Higginbotham, Gordon John Spencer.** Elected student member, 99.
**Higgins, Daniel.** Elected member, 93.
**Higgins, R.** Lecture on "**Porosity in Sintered Materials**" (summary), 73.
**Hignett, H. W. G.** Elected Vice-President, 22; biographical notes, 56.
**Hill, Richard George Cowper.** Elected student member, 130.
**Hilliard, J. E.** Lecture on "**Metallurgical Research at High Pressures**", 117, 141 (summary).
**Hirase, Masakazu.** Elected member, 22.
**Hirsch, Peter Bernhard.** Lecture on "**Electron-Microscope Observation of Dislocations in Metals**" (summary), 152; awarded Rosenhain medal (1961), 155; biographical notes, 156; elected member, 166.
**Hiscocks, Stephen Edward.** Elected student member, 130.
**Hitchcock, Robert Edward.** Elected student member, 23.
**Hockenhull, Brian Sheridan.** Elected member, 55.
**Hoeppner, David William.** Elected student member, 86.
**Hofmann, Hans.** Elected member, 111.
**Hökby, Bengt.** Elected member, 180.
**Hollox, Graham Edward.** Elected student member, 94.
**Homer, C. E.** Chairman's speech at Birmingham Local Section **Golden Jubilee**, 70.
**Honeycombe, R. W. K.** Awarded Rosenhain Medal (1959), 13; biographical notes, 13, 56; elected Member of Council, 22.
**Hooker, (Mrs.) Ruth H.** Elected member, 130.
**Horsfield, John.** Elected student member, 130.
**Hose, Ronald Peter.** Elected student member, 99.
**Howe, Roy Duncalfe.** Elected member, 118.

**Hughes, David Gerald.** Elected student member, 15.
**Hughes, I. C. H.** Contribution to "**Symposium on Solidification**" (summary), 134.
**Hughes, J. E.** Lecture on "**Metallurgy in Electronics**" (summary), 152.
**Hughes, Thomas Alan.** Elected student member, 143.
**Hughes, William Thomas.** Elected junior member, 94.
**Hume-Rothery, W.** Monograph: "**Atomic Theory for Students of Metallurgy**", 85; lecture on "**The Theory of the Alloys of Copper**", 117; elected Hon. Member, 129.
**Hung-Chi, Chao.** Elected student member, 68.
**Hunt, John David.** Elected student member, 33.

**Ianniello, Louis.** Elected member, 142.
**Irani, Jamshed Jijibhoy.** Elected student member, 48.
**Iriberri, Jorge Rafael.** Elected member, 142.
**Irvine, K. J.** Lecture on "**Metallurgical Research in the U.S.S.R.**" (summary), 36.
**Iyer, A. Subramanya.** Elected member, 118.

**Jackson, David Richard.** Elected member, 93.
**Jackson, Kenneth Thomas.** Elected student member, 130.
**Jackson, Michael David.** Elected student member, 143.
**Jackson, Malcolm William.** Elected student member, 142.
**Jackson, Ross.** Elected student member, 118.
**Jain, Satya Prakash.** Elected student member, 68.
**James, David William.** Elected student member, 23.
**James, Frederick Walter.** Elected member, 118.
**Jamieson, Ronald Maclennan.** Elected student member, 130.
**Jenkins, George Alan.** Elected student member, 23.
**Jenkins, Graham James.** Elected member, 32.
**Jenkins, Ivor.** Elected Member of Council, 22; biographical notes, 57.
**Jesperson, W. H.** Elected member, 180.
**Jestrabek, Otokar.** Death of, 150.
**Jewett, Robert P.** Elected student member, 158.
**Jirotka (Mrs.) Zdenka Emilie.** Elected member, 32.
**Johnson, Kenneth Vivian.** Elected member, 111.
**Johnson, Wayne Earl.** Elected member, 1.
**Johnston, Gordon Basil.** Elected member, 1.
**Jones, Albert William.** Elected junior member, 142.
**Jones, David George.** Elected student member, 130.
**Jones, David Jones.** Elected student member, 143.
**Jones, Eric.** Elected member, 55.
**Jones, Frederick Wilson.** Elected member, 32.
**Jones, Howard.** Elected student member, 15.
**Jones, Robert Barry.** Elected junior member, 23.
**Jongenburger, Petrus.** Elected member, 1.
**Jordan, David Robin.** Elected member, 111.
**Joskey, Ronald Cecil.** Elected member, 48.

**Kaddou, Abdul-Fattah K.** Elected member, 14.
**Kahn-Rein, Charles Anthony.** Elected member, 98.
**Kaliski, Charles Edward.** Elected member, 67.
**Kallmann, Silve.** Elected member, 32.
**Kapoor, Rajendra Kumar.** Elected member, 166.
**Kat, Dirk.** Elected member, 48.
**Kaufman, Murray.** Elected member, 157.
**Keane, Donald Matthew.** Elected student member, 56.
**Kennedy, A. J.** Lecture on "**Metals and High-Speed Flight**" (summary), 73.
**Keown, Samuel Robert.** Elected student member, 111.
**King, Thomas John.** Elected member, 157.
**Kingsley, Gerald Vaughan.** Elected member, 118.
**Kirchof, Elizabeth H.** Elected member, 166.
**Kitson, Anthony Ross Douglas.** Elected member, 32.
**Kobrin, Clarence Lewis.** Elected member, 32.
**Koelling, Harold A.** Elected student member, 68.
**Komatsubara, Takejiro.** Elected member, 33.
**Kotval, Peshotan Sohrab.** Elected student member, 130.
**Kraai, Dwight Alan.** Elected student member, 86.
**Krawczyk, Wladyslaw.** Elected member, 166.
**Kuo-chin Chuang.** Elected student member, 166.

**Lambie, John.** Elected member, 33.
**Langford, Haydn Maurice Antony.** Elected member, 33.
**Langston, Merritt Eugene.** Elected member, 22.
**L'Appell, Peter Thomas.** Elected member, 67.
**Larkovic, William Michael.** Elected student member, 111.
**Latham, David John.** Elected student member, 33.
**Law, Cyril John.** Elected member, 48.
**Lawley, Derek Reginald.** Elected student member, 23.
**Lear, Edward Herbert.** Elected member, 158.
**Lee, John Edward.** Elected student member, 68.
**Leighly, Hollis Philip, Jr.** Elected member, 98.
**Lelong, Pierre Paul Lucien.** Elected member, 68.
**Leser, Hans-Georg.** Elected member, 111.
**Lett, Graham Vincent.** Elected student member, 23.
**Lewin, Roger.** Elected student member, 15.
**Lewis, Michael Harold.** Elected student member, 130.
**Liddiard, E. A. G.** Letter to the Editor: "**What Should the Institute Publish?**", 161.
**Linde, Jonas Otto.** Elected member, 86.
**Lindstrand, N. Erik.** Elected member, 93.
**Lister, Thomas Stott.** Elected member, 14.
**Littmann, Martin.** Death of, 150.
**Llewellyn, William Robert.** Elected junior member, 68.
**Lloyd, Edward Harry.** Elected member, 48.
**Lockington, Gerald William.** Elected student member, 158.
**Loewy, Erwin.** Obituary notice, 3.
**Logan, Arthur.** Death of, 87.
**Lord, Arthur Nelson.** Elected member, 98.
**Lowe, Joseph Samuel.** Elected member, 14.
**Lowe, William Maurice.** Elected member, 129.
**Lucasson, Pierre.** Elected member, 22.
**Ludwigson, David Carl.** Elected member, 55.
**Luerssen, Frank Wonson.** Elected member, 98.
**Lumb, Robert.** Elected member, 158.

**Maano, Katsuyuki.** Elected junior member, 68.
**McBride, (Mrs.) Harriet.** Elected member, 111.
**McCarthy, Michael Phillips.** Elected member, 98.
**McDonald, Percival Charles.** Elected member, 93.
**McFarlane, James Sinclair.** Elected member, 33.
**McKay, Andrew Melville.** Elected member, 180.
**McLean, D.** Lectures on "**Metallurgical Research in the D.S.I.R.**" (summary), 89, "**Creep Deformation**" (summary), 184.
**Maclean, Kenneth Alan.** Elected member, 111.
**McLeod, Donald Frank.** Elected student member, 99.
**McMahon, John F.** Elected member, 68.
**McQueen, Hugh.** Elected student member, 48.
**McWilliams, Thomas Grason, Jr.** Elected member, 118.
**Maddigan, Stephen Edward.** Elected member, 111.
**Maddock, Alan Julian.** Elected member, 22.
**Malcolm, Alan.** Elected member, 93.
**Malhotra, Sham Lal.** Elected student member, 68.
**Mann, D. J. O.** Awarded Mond Nickel Fellowship (1959), 11.
**Marbot, D. Rene.** Elected member, 180.
**Marchant, Peter Reginald.** Elected student member, 68.
**Marchbanks, Martin Franklin.** Elected student member, 68.
**Marriott, David John Digby.** Elected member, 33.
**Marsh, Anthony Edward.** Elected student member, 23.
**Marshall, Alec Frank.** Elected member, 33.
**Marshall, Gordon Shiels Walker.** Elected member, 142.
**Marshall, Robert.** Elected member, 129.
**Martin, A. J.** Lecture on "**Beryllium as a Structural Material**" (summary), 171.
**Martin Garcia, José Thomas.** Elected member, 98.
**Mason, George Leslie.** Elected member, 48.
**Massart, Joseph.** Elected member, 98.
**Mathis, Donald Lee.** Elected student member, 68.
**Maudling, R.** Speech at **Institute of Metals dinner**, 63.
**Maundury, André.** Elected member, 33.
**Mayer, George.** Elected student member, 33.
**Mead, George Sidney.** Elected member, 118.
**Mehl, Robert Franklin.** Awarded Platinum Medal (1960), 47; biographical notes, 69.
**Meier, Herbert.** Elected member, 48.
**Melchior, Paul.** Death of, 150.
**Melford, D. A.** Lecture on "**X-Ray Micro-analyser as Tool for Metallurgist**" (summary), 172.
**Menon, P. K. S.** Elected member, 55.
**Merrick, Howard Francis.** Elected student member, 118.
**Michell, David.** Elected member, 142.
**Michiels, John.** Elected member, 118.
**Middleton, Malcolm Cecil.** Elected student member, 15.
**Mikol, Robert C.** Elected member, 157.
**Miles, Reginald John.** Elected student member, 142.
**Miller, Jon Elwood.** Elected member, 86.
**Mills, Eric.** Elected member, 129.
**Mitchell, Eric.** Elected member, 86.
**Mitko, Andrzej.** Elected student member, 166.
**Moore, Michael Richard.** Elected student member, 118.
**Moore, R. E.** Appointed Secretary of Institute, 165; biographical notes, 165.
**Moore, Thomas William.** Elected student member, 15.
**Morden, Alan J. F.** Elected student member, 15.
**Morris, Anthony David.** Elected student member, 23.
**Motor Industries Company, Ltd.** Elected overseas sustaining member, 32.
**Mott, B. W.** Lecture on "**Some Metallurgical Problems in Atomic Energy**" (summary), 134.
**Moudry, Gilbert A.** Elected member, 48.
**Muellenbach, Wilhelm Joseph.** Elected member, 86.
**Mueller, Charles Paul.** Elected member, 48.
**Muetzel, Peter Siegfried.** Elected member, 33.
**Mukherjee, Amiya Kumar.** Elected student member, 33.
**Mundie, John Smith.** Elected student member, 142.
**Murakami, Yotaro.** Elected member, 157.
**Murphy, William J.** Elected member, 166.
**Murray, Gerald.** Death of, 100.
**Murray, Gordon Arthur William.** Elected student member, 33.
**Murray, Herbert Spencer Stanley.** Biographical notes, 11; elected chairman of Scottish Local Section, 11; obituary, 59.
**Murray, Peter.** Elected member, 142.
**Myers, Trevor Alfred.** Elected student member, 130.
**Myles, Dorothy Isabella Katherine.** Elected member, 111.

**Nadin, Geoffrey.** Elected student member, 33.
**Nadkarni, Sadashiv Mahableshwar.** Elected member, 93.

**Nash, Ralph Robert.** Elected member, 142.
**Neale, Raymond William George.** Elected junior member, 33.
**Neate, Donald Albert.** Elected student member, 33.
**Nedorostek, L. J.** Obituary notice, 160.
**Neufeld, Peter.** Elected student member, 15.
**Newell, Charles Robert.** Elected member, 130.
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